

Radiation Blocking Lenses

At right is a selection of Suntiger® sunlight-filtering glasses that protect human vision by blocking blue, violet and ultraviolet light which, occupational safety research has shown, can cause a variety of eye disorders, in particular cataracts and age-related macular degeneration.

Produced by Suntiger Inc. Biomedical Optics, North Hollywood, California, Suntiger PST™ (Polarized Selective Transmission) lenses bar 99 percent of the potentially harmful wavelengths while allowing the visually useful colors of light (red, orange, green) to pass through. Similar in principle to the natural filters in the eyes of hawks and eagles, they also block out high intensity glints of reflected sunlight that cause localized areas of the retina to receive high doses of light, or glare. Additionally, the lenses improve visual acuity, night vision and visibility through haze, fog or smog.

Introduced in the early 1980s, the PST lens was a spinoff from a spinoff. Suntiger has now advanced the technology to embrace a new line of third generation spinoff applications.

Among them are industrial inspection glasses designed to protect plant workers from impact and splash hazards as well as harmful levels of ultraviolet and blue light. This type of glass is especially useful, Suntiger says, for inspection of parts by fluorescent dye testing, which emits hazardous radiations. This brings the PST technology full circle, because it evolved from an industrial project intended to develop a protective welding curtain that filtered out harmful irradiance. That work was done by James B. Stephens and the late Dr. Charles G. Miller, both of Jet Propulsion Laboratory (JPL). Working on their own time, applying radiation know-how and problem solving methodology from their JPL experience, they developed a formula that includes light filtering dyes and small particles of zinc oxide, and produced a commercially-sold protective curtain that ab-



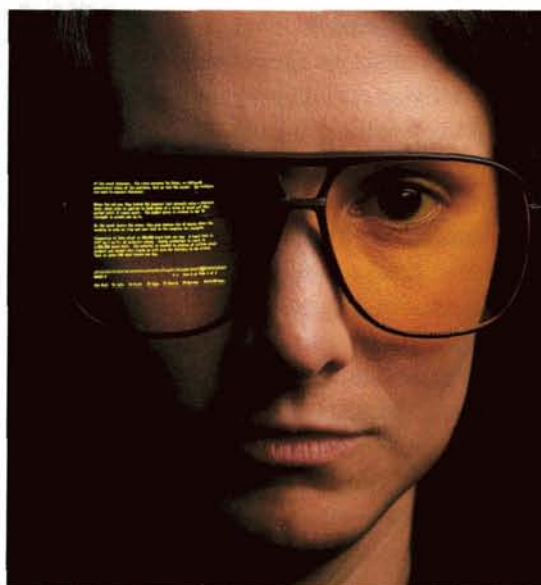
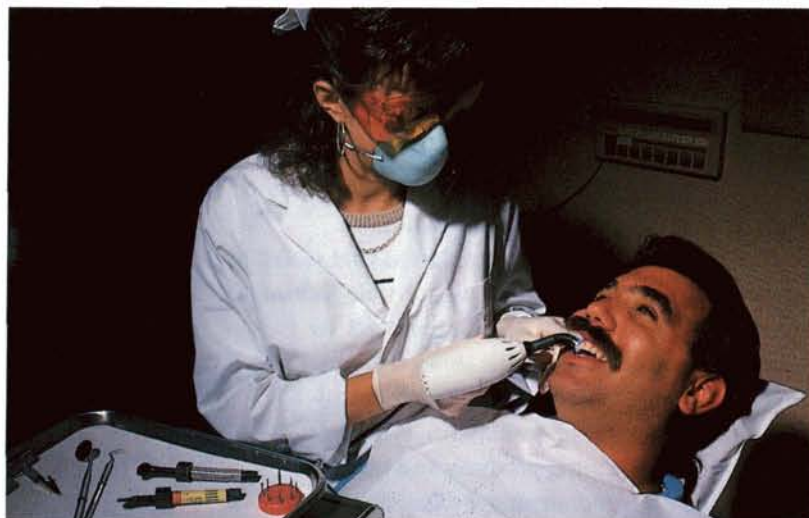
sorbs, filters and scatters light. That success led to further research, by Stephens and others who had assisted in the curtain project, in the field of protective glasses.

In addition to the new industrial inspection glasses, Suntiger research on the relative hazards of different wavelengths of light has led to development of safety glasses for protection against certain types of laser light; the company has been able to achieve very high optical densities at the wavelengths emitted by certain lasers without sacrificing visibility.

Suntiger has designed one type of protective lens for dentists (right) who use ultra-violet curing systems, which typically generate hazardous levels of blue as well as ultraviolet light. The lenses attenuate the radiation to safe levels while maximizing the amount of non-hazardous light so that the dentist can see more clearly.

Still another new product is the Fluorotech™ lens (right) specifically developed to block the hazardous radiation peaks emitted by fluorescent lights and unfiltered CRT screens, which have caused complaints of eye irritations and headaches (see page 68).

In development is a line of ski visors that will incorporate polarized orange technology along with several features designed to minimize lens fogging. The original line of PST lenses is being offered in several colorations with four newly-developed frame styles. Suntiger also coats prescription lenses.



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